

Novel cultured inner cell mass (CICM) cells, and cell lines, derived from ungulates, in particular, pigs and cows, and methods for their preparation are provided. The subject CICMs possess similar morphology and express cell markers identically or substantially similarly to ICMs of undifferentiated developing embryos for prolonged culturing periods. Heterologous DNA is inserted into the subject CICM cells and cell lines so as to produce transgenic CICM cells which are introduced into non-human fertilized embryos to produce transgenic chimeric embryos. The transgenic chimeric embryos are transferred into recipient females where they are permitted to develop into transgenic chimeric fetuses. Recipient females give birth to transgenic chimeric animals which are capable of transmitting the heterologous DNA to their progeny. Transgenic CICM cells are also used to produce cloned transgenic embryos, fetuses and offspring.